

Abstract

A solenoid plunger system for an electropneumatic pressure transducer, comprising at least partly – in a casing which focuses magnetic field lines  $M$ , in particular in the form of an iron casing – a solenoid plunger and a core, in particular in the form of an iron core or magnetic core, wherein the solenoid plunger comprises at least one recess on the side facing towards the core, and/or the core comprises at least one recess on the side facing towards the solenoid plunger, and an air gap is provided between the solenoid plunger and the core; the air gap is adjustable by relative movement between the solenoid plunger and the core, during which relative movement the solenoid plunger can, at least partly, be moved into/out of the first recess in the core, and/or the core can be moved, at least partly, into/out of the recess in the solenoid plunger; the casing comprises at least a first shell and a yoke, each of high magnetic permeability, wherein the first shell is arranged between the solenoid plunger and at least one coil and/or at least one magnet, and the air gap is arranged in a region between the first shell and the yoke; and the casing comprises a second shell of high magnetic permeability between the first shell and the yoke, wherein said second shell comprises at least one recess, in particular in the shape of an annular groove, on its side facing away from the core, for focusing magnetic field lines  $M$  from the yoke onto the core, and in that in the region of the recess of said second shell, the yoke and/or an adjustment member, in particular in the form of an adjustment ring, of high magnetic permeability is/are moveable relative to said second shell, for adjusting the magnetically effective length  $l$  of the recess of the second shell.